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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Forward Resource Adequacy Procurement Obligations.	Rulemaking 19-11-009 (Filed November 7, 2019)

TRACK 2 PROPOSALS OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)

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Dated: February 21, 2020

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Pursuant to the schedule set forth in the *Assigned Commissioner's Scoping Memo and Ruling*, dated January 22, 2020, and in accordance with the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), Pacific Gas and Electric Company ("PG&E") provides its Track 2 proposals in this proceeding.

The following is a summary of PG&E's Track 2 proposals, which are discussed in more detail in the body of this pleading:

- PG&E proposes that the Commission adopt an exceedance-based qualifying capacity ("QC") methodology for hydroelectric resources;
- PG&E proposes that the Commission eliminate the 15 percent planning reserve margin for supply side demand response ("DR") resources;
- PG&E proposes that the Commission adopt a multi-year load forecast for load serving entities to be used in establishing the multi-year local resource adequacy ("RA") requirements;
- PG&E proposes that the Commission establish a process to revise local RA requirements subject to changes to the final net qualifying capacity ("NQC") listing;
- PG&E proposes that the establishment of a local RA working group process, led or co-led by the California Independent System Operator Corporation ("CAISO"), is needed to address some of the issues with the local RA program;
- PG&E proposes that the Commission adopt an alternative compliance mechanism or change the existing penalty structure and waiver process for the local RA program to provide greater certainty regarding applicability of penalties for failure to meet disaggregated requirements; and
- PG&E proposes that the Commission establish technology and locational factors as part of the effective load carrying capability ("ELCC")-based methodology for solar and wind resources.

I. PG&E'S PROPOSALS REGARDING QUALIFYING CAPACITY COUNTING RULES FOR HYDROELECTRIC RESOURCES AND SUPPLY SIDE DEMAND RESPONSE RESOURCES

PG&E continues to actively participate in the working group process concerning counting rules for applicable resources in Track 2 of this proceeding. In this section, PG&E focuses its proposals on hydroelectric resources and supply side DR resources.

A. THE COMMISSION SHOULD ADOPT AN EXCEEDANCE METHODOLOGY FOR HYDROELECTRIC RESOURCE QC COUNTING RULES

Hydroelectric resources have historically been and will continue to be a significant source of clean and reliable power and play an important role in ensuring system reliability. As discussed by PG&E, Southern California Edison Company ("SCE") and the CAISO at the February 12, 2020 working group meeting on QC counting rules for hydroelectric resources from 10:00 AM to 1:00 PM (the "February 12, 2020 Workshop"), hydroelectric resources are highly dependent on hydrological conditions, weather patterns, Federal Energy Regulatory Commission ("FERC") licensing, storage levels, and upstream and downstream powerhouses. These operational challenges and limitations make the current QC methodology for hydroelectric resources problematic because the QC methodology does not reasonably reflect the capacity that will reliably be made available to the CAISO's market for the period required by the CAISO. The current QC methodology is focused on the hydroelectric resource's availability over peak hours. Under this methodology, the Commission categorizes and establishes a QC for hydroelectric resources as either: (1) dispatchable or (2) non-dispatchable. Dispatchable hydroelectric resources have a QC based on the resource's PMax, while non-dispatchable hydroelectric resources have a QC based on the rolling average of the previous three years' generation output during the Commission's RA measurement hours. Adding further ambiguity is the fact that there is no clear criteria, set by either the Commission or CAISO, in determining whether a resource is "dispatchable" or "non-dispatchable." Rather, the designation is simply based on a parameter within the CAISO's master file.

At the February 12, 2020 Workshop, PG&E also noted that there is a disconnect between Commission's RA program and CAISO's operational requirements for RA. The current QC methodology for hydroelectric resources does not account for the operating constraints reflected in actual bidding and scheduling of hydroelectric resources.[1]

To account for the inherent challenges associated with hydroelectric resources, PG&E proposes an exceedance methodology as an approach that better reflects hydrological conditions, seasonality and weather patterns, FERC licensing, state fish and wildlife agencies, storage levels, and upstream and downstream powerhouses that can impact resource availability.[2] Adjusting the current QC counting rules would increase certainty that a given hydroelectric resource would be able to reasonably provide capacity and meet the CAISO's bidding obligations at its QC value in any given year.[3] PG&E provides additional details of its proposed exceedance methodology approach for hydroelectric resources in Appendix A hereto. PG&E also proposes that the Commission adopt the exceedance methodology for hydroelectric resources beginning with the 2022 RA compliance year. This will allow for QC values to be well known in advance of the calculation of the local and flexible RA requirements and will reduce potential inefficiencies in transacting due to changing QC values for hydroelectric resources.

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[1] Hydroelectric resources are divided into four categories at the CAISO for operational purposes: (1) use-limited, (2) conditionally available, (3) use-limited and conditionally available, and (4) non-use-limited.

[2] PG&E presented this same proposal for an exceedance methodology for hydroelectric resources at the February 12, 2020 Workshop for consideration in the working group process.

[3] *See* Rulemaking 16-02-007, *Reply Comments of the California Independent System Operator Corporation*, dated August 12, 2019, p. 22 ("Generation profile [for small hydroelectric resources] calculated as 70% of qualifying capacity based on 2019 NQC list for September values. 70% generation was derived by taking the median generation value during the single peak hour for all days in September from 2015 through 2018. The selected near-term historical years include both drought and non-drought years. The generation profile was held constant over the analysis hours.").

PG&E recognizes that the Commission has also established a working group process for QC counting rules for hydroelectric resources, which is being led by both Southern California Edison Company ("SCE") and CAISO. PG&E will continue to be engaged with the co-leads and the working group process and may amend this proposal as a result of those discussions.

B. THE COMMISSION SHOULD ELIMINATE THE 15 PERCENT PLANNING RESERVE MARGIN FOR SUPPLY SIDE DEMAND RESPONSE RESOURCES

PG&E proposes that the Commission eliminate the 15 percent gross up that is applied to supply side DR resources.[4] The 2020 RA Compliance Filing Guide states:

> The 15 [percent] planning reserve margin is added to the [demand response] capacity in the Summary tabs to reflect that [demand response] programs directly reduce the load that the system is required to support, and thus that load does not need planning reserves. . . . In [Decision]14-03-026, [demand response] programs were bifurcated into Supply Resources and Load Modifying Resources. No changes have yet been made in how Supply Resource DR and Load Modifying Resource DR are treated by the [Commission] in the RA context.[5]

Decision ("D.") 04-01-050 sets forth the essential rationale for including a planning reserve margin in the RA construct:

> Planning reserves involve a longer-term perspective of ensuring that in real-time there will be sufficient energy to meet peak demand plus needed operating reserves. Typically, this requires that a utility have more than 7 [percent] reserves, since at any given time some percentage of plants may not be available due to such factors as maintenance, forced outages, fuel limitations, or in the case of hydroelectric power, insufficient water.[6]

PG&E questions whether supply side DR resources reduce the need for operating reserves or reduce peak demand in real-time with enough certainty to support a 15 percent gross

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[4] PG&E presented this same proposal for supply side DR resources at the February 13, 2020 working group meeting on DR for consideration in the working group process.

[5] *2020 Filing Guide for System, Local and Flexible Resource Adequacy (RA) Compliance Filings*, R.17-09-020, issued October 17, 2019 ("RA Compliance Filing Guide"), p. 31.

[6] D.04-01-050, p. 21.

up for RA counting purposes. The result of the current treatment is that the effective planning reserve margin for a load serving entity ("LSE") that procures supply side DR resources to meet RA requirements may be less than the 15 percent required under the RA guidelines. Under the current RA guidelines, an LSE is effectively required to procure zero planning reserves to guard against failure of the DR resource to perform upon being called.

Based on PG&E's review, neither of the decisions cited in the RA Compliance Filing Guide to support the 15 percent planning reserve margin gross up (i.e. D.10-06-036 and D.15-06-063) affirmatively approved or even discussed the planning reserve margin gross up. The discussion and affirmative approval of the formula (i.e. *DR RA Value = 1.15 * DR Load Impact * T&D Line Loss Factors*) in both D.10-06-036 and D.15-06-063 focus on the question of the appropriate transmission and distribution ("T&D") line loss factor gross-up with no discussion of the 15 percent planning reserve margin gross up.

If the Commission determines it is not reasonable to adopt PG&E's proposal to eliminate the 15 percent planning reserve margin gross up, then, at a minimum, PG&E requests that the Commission in Track 2 of this RA proceeding rule directly on the issue of whether continuing the 15 percent planning reserve margin gross up for supply side DR resources is appropriate.

II. PG&E'S PROPOSALS REGARDING LOCAL RA PROGRAM

A. THE COMMISSION SHOULD ADOPT A MULTI-YEAR LOAD FORECAST FOR ALL COMMISSION-JURISDICTIONAL LOAD SERVING ENTITIES TO BE USED FOR MULTI-YEAR LOCAL RA REQUIREMENTS

D.19-02-022 regarding multi-year local RA requirements did not adequately consider foreseeable load migration in setting individual LSE local RA requirements for years two and three of the multi-year local RA requirements. D.19-02-022 states:

> As the Commission is unable to anticipate when new LSEs will form or how load will migrate among LSEs beyond the one-year timeframe, at this point, all LSEs will be allocated local requirements for each of the three forward years based on

> their load share in the first year resulting from the adopted California Energy Commission (CEC) load forecasting process.[7]

The proposed approach by the Commission to allocate local RA requirements based on a single year's load forecast for multiple forward years is ineffective and likely to result in (1) cost shifting, (2) inequities in RA obligations that occur as load shifts from investor-owned utilities ("IOUs") such as PG&E to community choice aggregators ("CCAs"), and (3) potential over-procurement. This approach raises topics similar to those the Commission addressed in Resolution E-4907.

Therefore, PG&E proposes that the Commission adopt a multi-year load forecast to be submitted by all Commission-jurisdictional LSEs and used in determining the local RA requirements for each of the three forward years. Based on the timing and schedule of Track 2 in this proceeding, PG&E is proposing that LSEs be required to submit their three-year load forecast as part of the August mandatory load forecasting update for the 2021-2023 local RA requirements only. On a going forward basis, if needed, LSEs should be required to submit their multi-year load forecasts in the month of April as part of the existing RA timeline and serve only the load for which they have planned.

Given the anticipated load shifting landscape of the near future, with multiple LSEs expanding their service, the introduction of a multi-year load forecast to capture load migration among LSEs is a critical component to minimize inequitable RA procurement obligations between an IOU and a new or expanding CCA.

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[7] D.19-02-022, p. 28.

B. THE COMMISSION SHOULD ESTABLISH A PROCESS TO REVISE LOCAL RA REQUIREMENTS SUBJECT TO CHANGES TO THE FINAL NQC LISTING

PG&E recommends that the Commission establish a process to adjust the requirements for local RA to match the available capacity, as measured in available NQC that will be used to meet the local RA requirements. PG&E notes that there have been at least two instances in the past few years where the local RA requirements have been established using one set of NQC values, while compliance requirements have used a significantly different set of NQC values.

In the first instance of this occurring in 2018, the Commission appropriately adjusted the local RA requirements to better match those used to calculate the local RA requirements in response to comments by San Diego Gas & Electric ("SDG&E") on a May 25, 2017 proposed decision in Rulemaking 14-10-010. In its comments, SDG&E pointed out two errors in the proposed decision.[8] The first error was the fact that the CAISO's local capacity technical study ("LCTS") was based on outdated NQC values that were higher than those adopted by the Commission for use in the compliance showings by LSEs. In the proposed decision, the Commission proposed adopting an ELCC-based QC methodology for solar and wind resources; however, the NQC values used in the LCTS reflected the previously used exceedance methodology for solar and wind resources. SDG&E claimed the proposed decision erred in that it failed to adjust the available capacity to reflect the application of the ELCC-based

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[8] Rulemaking 14-10-010, *San Diego Gas & Electric Company (U 902 E) Comments on Proposed Decision Adopting Local and Flexible Capacity Obligations for 2018 and Refining the Resource Adequacy Program*, filed June 14, 2017, pp. 1-2 ("Specifically, in calculating the available QC for 2018, the PD does not account for: (i) the reduction in available capacity of wind and solar resources resulting from adoption of the ELCC methodology; or (ii) the unavailability of the Encina Power Station ('Encina') resource for purposes of compliance with 2018 LCR. The PD should be revised to reflect a corrected calculation of available local capacity and need in the San Diego/Imperial Valley local area by reducing available QC by 1,082 megawatts ('MW') and LCR need by 199 MW.").

methodology in all local capacity areas. In D.17-06-027, the Commission acknowledged this error and adjusted the local RA requirements to reflect the values of the resources available to meet the local RA requirements.[9]

In the second instance of this occurring in 2019, the appropriate adjustment was not made. In D.19-06-026, the Commission adopted local RA requirements for the 2020-2022 compliance years based on the CAISO's LCTS study filed on May 1, 2019. The CAISO's LCTS analysis used the 2018 NQC numbers finalized on October 12, 2018.[10] In the same decision, the Commission adopted refinements to the ELCC-based QC values for wind and solar for use with 2020 RA compliance year.[11] In this instance, the local RA requirements were not concurrently adjusted in the decision to reflect this significant change. This resulted in some local capacity areas not having enough available capacity to meet the local RA requirement for that local capacity area. For instance, in the Kern local capacity area, the requirement was 465 megawatts ("MWs"), with only 412.66 MWs of available capacity to meet the Kern local capacity area.[12] Absent an adjustment to the local RA requirements, a number of LSEs are likely to continue submitting local RA waiver requests for the respective RA compliance years.

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[9] D.17-06-027, pp. 29-30 ("SDG&E is correct. The corresponding numbers have been changed on the table '2018 Local Capacity Requirements' in Section 3 above.").

[10] *See Final Net Qualifying Capacity Report for Compliance Year 2018*, dated October 12, 2018, *available at* http://www.caiso.com/planning/Pages/ReliabilityRequirements/Default.aspx (last visited February 21, 2020).

[11] D.19-06-026, Ordering Paragraph 19.

[12] *See Final Net Qualifying Capacity Report for Compliance Year 2020*, dated February 14, 2020, *available at* http://www.caiso.com/planning/Pages/ReliabilityRequirements/Default.aspx (last visited February 21, 2020).

For instances in which the Commission lowers the local RA requirement of various local capacity areas due to a lack of available supply, as measured by NQC, in the particular local capacity area, PG&E proposes that the Commission allow Energy Division staff to further lower the local RA requirements if the final NQC values of the total existing supply in a local capacity area are lower than the total existing supply that was studied as part of the CAISO's LCTS.

C. A LOCAL RA WORKING GROUP PROCESS, LED OR CO-LED BY CAISO, IS NEEDED TO ADDRESS ISSUES WITH THE LOCAL RA PROGRAM

In Track 3 of Rulemaking 17-09-020, PG&E proposed a working group to specifically "examine the relationship between local RA requirements, RA resource obligations, changes to NQC in forward years, how RA performance in assessed, and how local RA backstop procurement occurs or does not occur from uncured deficiencies."[13] In D.19-06-026, the Commission found PG&E's proposal to be reasonable and directed Energy Division to establish a working group to evaluate improvements and refinements prior to the development of the 2021-2023 local RA requirements.[14]

If the Commission does not adopt a full (or front-stop) procurement model for the central buyer role in Track 2 of Rulemaking 17-09-020, then PG&E requests that the Commission order Energy Division to establish a working group process, similar to the working groups established in Track 2 of this proceeding, with working group reports to address the whole host of issues that result from the disconnect that continues to exist between the CAISO's local RA program and

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[13] Rulemaking 17-09-020, *Comments of Pacific Gas and Electric Company (U 39 E) on 2020 Local Capacity Technical Study*, dated May 8, 2019, p. 5. *See also Comments of Pacific Gas and Electric Company (U 39 E) on Track 3 Proposals and Workshops and Energy Division's Effective Load Carrying Capacity Proposal*, dated March 22, 2019, p. 7.

[14] D.19-06-026, p. 9, Finding of Fact 2, Conclusion of Law 2, Ordering Paragraph 4.

the Commission's local RA program. Such a comprehensive working group is especially needed if the Commission adopts a residual procurement model for the central buyer role in Track 2 of Rulemaking 17-09-020, since such a framework requires the publishing of local RA requirements for each LSE. On the other hand, if the Commission orders a full (or front-stop) procurement model framework for the central buyer role, such a comprehensive working group addressing the large array of issues would not be as necessary, since requirements would not need to be allocated to the LSE level, and PG&E proposes that the Commission order a more focused working group to examine the small subset of issues that will remain in the full procurement context. PG&E notes that CAISO has not disaggregated local RA requirements for non-Commission jurisdictional LSEs, nor do non-Commission-jurisdictional LSEs have multi-year local RA requirements under the rules of the CAISO's local RA program.

PG&E believes that the establishment of a local RA working group process, similar to those in Track 2 of this proceeding and which was found reasonable and ordered in D.19-06-026,[15] would provide a structure to address these issues, including how the Commission's local RA program should account for non-Commission-jurisdictional LSEs that appear unwilling to provide RA capacity to the market.

D. ALTERNATIVE COMPLIANCE MECHANISM OR CHANGES TO EXISTING PENALTY STRUCTURE AND WAIVER PROCESS TO PROVIDE GREATER CERTAINTY REGARDING APPLICABILITY OF PENALTIES FOR FAILURE TO MEET DISAGGREGATED REQUIREMENTS

On September 11, 2019, PG&E filed the *Petition for Modification of Decision 19-02-022 by Pacific Gas and Electric Company (U 39 E)* ("Petition") in Rulemaking 17-09-020. In the Petition, PG&E alerted the Commission to potential compliance issues associated with

[15] *Id*.

disaggregation of the "PG&E Other" local capacity area ("LCA") and requested that the Commission modify Decision 19-02-022 to provide an "Alternative 'PG&E Other' LCA RA Compliance Mechanism" for fulfillment by LSEs of their newly disaggregated "PG&E Other" LCA requirements. To comply through the Alternative "PG&E Other" LCA RA Compliance Mechanism, PG&E proposed that an LSE could complete two actions: (1) in respect of its disaggregated "PG&E Other" LCA requirements, the LSE would make the demonstrations required as part of the current local RA waiver process through submission of a Tier 2 Advice Letter, as ordered in D.19-06-026; and (2) if the LSE was able to make such demonstrations with respect to its disaggregated requirements, then, in its October 31 compliance filing, the LSE would also demonstrate procurement of local RA capacity within the "PG&E Other" LCAs such that the LSE's collective procurement of local RA in the Humboldt, North Coast/North Bay, Sierra, Stockton, Fresno and Kern LCAs meets the LSE's collective requirement for these areas. PG&E proposed that the Alternative "PG&E Other" LCA RA Compliance Mechanism would be available to LSEs for the annual RA compliance showing due on October 31 of each year for the local RA requirements and for the respective monthly local RA compliance requirements.

As of the date of this filing, the Petition remains unresolved in Rulemaking 17-09-020. PG&E continues to urge the Commission to grant the Petition in Rulemaking 17-09-020 for the reasons outlined therein. PG&E believes that granting the Petition will provide parties with upfront, achievable requirements that are fair, transparent, and justified by the new information provided in the Petition, which is incorporated herein by this reference.

If the Commission instead prefers to consider the issues raised in the Petition in this proceeding, PG&E proposes that the Commission can and should still adopt the Alternative "PG&E Other" LCA RA Compliance Mechanism in the upcoming Track 2 decision. Given that the record in Rulemaking 17-09-020 has been transferred to this successor proceeding and issues

remaining in Rulemaking 17-09-020 may be brought into this proceeding,[16] such action by the Commission is both supported by the record and can be accomplished in a timely manner. PG&E urges the Commission to adopt the Alternative "PG&E Other" LCA RA Compliance Mechanism at this time.

Alternatively, if the Commission will not adopt the Alternative "PG&E Other" LCA RA Compliance Mechanism, PG&E proposes that the Commission implement changes to the existing penalty structure and waiver process to provide greater certainty regarding the applicability of penalties for failure to meet disaggregated requirements. While such changes will not result in the upfront, achievable requirements provided for in the Petition and proposal above, these changes can assist market participants in managing exposure for compliance failures in the Humboldt, North Coast/North Bay, Sierra, Stockton, Fresno and Kern LCAs. To that end, PG&E proposes that the Commission adjust the penalty framework to clarify that an LSE will not be subject to penalties for failure to meet disaggregated requirements if the LSE completes the two actions outlined above for the proposed Alternative "PG&E Other" LCA RA Compliance Mechanism.

In other words, an LSE that completes such actions will not be required to seek a waiver of penalties for disaggregated requirement procurement failures because such failures will not trigger penalties under the RA program. PG&E believes that this change will allow the Commission to maintain the disaggregated LCA requirements that will ultimately lead to efficient procurement and eliminate backstop procurement by the CAISO, while recognizing that disaggregation of the "PG&E Other" LCA is not yet fully achievable under the decentralized procurement paradigm that currently exists.

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[16] *Order Instituting Rulemaking*, issued November 13, 2019, p. 3, Ordering Paragraph 5.

III. ADDITIONAL ITEMS FOR CONSIDERATION

A. THE COMMISSION SHOULD ESTABLISH TECHNOLOGY AND LOCATIONAL FACTORS AS PART OF THE ELCC-BASED METHODOLOGY FOR SOLAR AND WIND RESOURCES

In Track 2 of Rulemaking 17-09-020, PG&E proposed that the Commission should direct the Energy Division to ensure that ELCC based QC values are properly differentiated by location and technology type.[17] PG&E continues to support the incorporation of locational and technology factors for ELCC-based QC values and proposes that the Commission incorporate these refinements beginning with the 2022 RA compliance year.

PG&E acknowledges that differentiating resources by location and technology to calculate an ELCC-based QC value can be time consuming. Failing to do so, however, misrepresents a resource's contribution to reliability, and thereby increases the risk that the true reliability needs of the bulk power system may not be met. This is particularly true if the inaccurately-represented resources are a significant part of the system's portfolio. Consequently, a balance must be struck between the accuracy of the determination on system reliability and the cost of completing the analysis. As the ELCC-based methodology evolves and experience in calculating ELCC-based QC values increases, it should be the case that more and more differentiation can be made, with respect to technology type and location.

As a starting point for calculations for the 2022 RA compliance year, PG&E proposes the locational differentiation be limited to the north and south of Path 26. Although the limits on the transfer capacity between north and south of Path 26 have been eliminated, the RA program continues to distinguish between north and south resources as determined in the CAISO's NQC listing; as such, this proposed delineation could serve as an essential first step in providing additional granularity.

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[17] Rulemaking 17-09-020, *Pacific Gas and Electric Company Generation Resource Adequacy Program Prepared Testimony*, dated July 10, 2018, p. 3-6, lines 6-9.

In the past, PG&E has supported distinguishing technology factors of: (1) tracking photovoltaic ("PV"), (2) fixed PV, and (3) solar thermal. PG&E continues to support the calculation of separate ELCC-based QC values, based on these technology types. However, PG&E also recommends adding additional ELCC-based calculations for these technology types, based on the "dispatchability" of the resources. Simply counting all wind and solar resources as "must-take" does not accurately represent how these resources can operate to provide variable output to help balance the system.

As more solar and wind resources are added to the system, there will be an increasing need for renewable resources to have the ability to adjust output (i.e., have dispatchability), based on orders by the CAISO, or to respond to economic dispatches. Additionally, renewable resources are being relied upon for essential services, such as ancillary services and voltage support. PG&E believes it is important to send the appropriate market signals that distinguish the value that these resources can provide to the electric grid by establishing ELCC-based QC values. Classifying wind and solar resources as dispatchable will require a commitment for them to be operated on such a basis. Consequently, PG&E recommends calculating ELCC-based QC values for dispatchable and non-dispatchable units for wind, tracking PV, fixed PV, and solar thermal resources in both the north and south areas.

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IV. CONCLUSION

PG&E appreciates the opportunity to submit these Track 2 proposals.

Respectfully submitted,

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Dated: February 21, 2020

Appendix A
to
Track 2 Proposals of Pacific Gas and Electric Company (U 39 E)
Rulemaking 19-11-009

Set forth below is the specific exceedance methodology for hydroelectric resources, including the steps in the calculation and the data that must be obtained to implement the methodology.

Data for Methodology for Counting Hydroelectric Resources

- The previous 10 years of day-ahead market self-schedules and economic bids for each hydroelectric resource.
- For each hydroelectric resource with a 24/7 bidding obligation, the day-ahead market self-schedules and economic bids shall correspond to all hours of the day. For each hydroelectric resource with an as-available bidding obligation, the day-ahead market self-schedules and economic bids shall correspond to the five Resource Adequacy Availability Incentive Mechanism ("RAAIM") hours of each day of the month.
- For each hydroelectric resource, rank in descending order all of the included data for each respective month and determine the QC from the value 50% of the way (or median) through the ranking for each respective month.

The specific methodology set forth is based on providing a reasonable level of confidence that each hydroelectric resource will be made available to the CAISO during its respective hours of bidding obligations. The RAAIM hours correspond to the operating period when high demand conditions typically occur and when the availability of RA capacity is most critical to maintaining system reliability [CAISO Tariff Section 40.9.3.1(a)(2)(A)].

The proposed methodology provides a higher level of confidence in capturing the inherent challenges related to counting hydroelectric resources. Specifically, it can better reflect hydrological conditions, weather patterns, FERC licensing, state fish and wildlife agencies, storage levels and upstream and downstream powerhouses that can impact resource availability.